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KOREA'S GREENBELTS: IMPACTS AND OPTIONS FOR CHANGE

Chang-Hee Christine Bae[†]

Abstract: The discussions about urban growth boundaries in the United States have paid little attention to Korea's Greenbelt policy. Established in 1971, Seoul's massive Greenbelt has been rigidly maintained, although there have been some minor exceptions over the years. The liberalization of the Korean economy and the democratization of Korean society have been accompanied by deregulation in many spheres. However, land use planning remains tightly constrained, and there has only been minimal relaxation of the land laws; in fact, on balance they have become tougher. Some scholars have begun to question whether the Greenbelt might have restricted economic growth in Korea and significantly raised the costs of development. Others argue that the environmental benefits of the Greenbelt are substantial. There has also been some pressure from landowners and "natives" within the Greenbelt who argue that continued Greenbelt regulations represent a "takings" which deprives them of land value appreciation. This Article focuses on three alternatives: maintain the Greenbelt in its current form; modify the law by allowing significant development to occur, perhaps with the introduction of a cross-subsidy scheme; or abandon the Greenbelt altogether. The Article also examines the potential conflicts between the central government's control over the Greenbelts and local autonomy.

I. INTRODUCTION

Korea's Greenbelt¹ policy has been in place since 1971. Although amended several times in minor ways over the years, and attacked from many quarters in the recent past, the policy remains entrenched as the key element in Korea's land use controls. Controlled by the Ministry of Construction and Transportation—with management by local governments—it stands as a prime example of top-down, centralized physical planning. It has made the life of local government officials much more difficult as they have had to cope with the pressures of rapid population growth and economic expansion in the face of severe land supply constraints. The moves toward increasing local autonomy in recent years have barely affected Greenbelt strategies.²

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¹ Although this paper uses the more popular term "Greenbelt," the official name for the Greenbelts in Korea is Development Restriction Zones (*Gaebal Jehan Guyuk*).

² See Kyung-Hwan Kim, GUKTO JUNGBO, Dec. 1992, at 14.

Moreover, they have caused severe adverse effects on land and housing values, aggravating Korea's already serious housing problems. Furthermore, restrictions on development and use have violated the property rights of Greenbelt residents (and landowners). This paper examines these issues in more depth.

II. ORIGINS OF THE GREENBELT

Although the designation of Seoul's Greenbelt occurred in 1971, seven years earlier the Korean Planners Association proposed the Capital Region Urban Plan, which included a Greenbelt combined with satellite towns along radial corridors and a development corridor between Seoul and Incheon.³ These ideas borrowed heavily from the United Kingdom and Japan: from the Greater London Plan of 1944 came the Greenbelt and the formation of satellite towns, and from the National Capital Region Development Plan for Tokyo of 1958 came the development axis concept (Tokyo-Yokohama). A subsequent Master Plan prepared by the Seoul City Government in 1976 suggested a Greenbelt approximately ten kilometers-wide, beginning fifteen kilometers from City Hall.⁴

The Greenbelt was finally introduced in 1971 as an important component of the 1972-81 National Comprehensive Physical Plan.⁵ The Greenbelt was created by the Town Planning Act ("TPA") of January 1971, which adopted the term "Development Restriction Zone" rather than Greenbelt.⁶ The impetus for the TPA was personal intervention by President Park on his New Year visit to Seoul City Hall in January 1970.⁷ The Greenbelt was designated and implemented at the end of July 1971.

The Greenbelt reflected many objectives: to slow down population growth and industrial concentration in Seoul; to prevent contiguous metropolitan sprawl merging Seoul with the cities of Incheon, Suwon, and Euijeongbu; to prevent expansion to the north because of the security and

³ Cheong Bae, *Green Belts and Urban Growth in London, Tokyo and Seoul* 210-11 (1991) (unpublished Ph.D. dissertation, Wye College, University of London) (on file with author) [hereinafter Bae Dissertation].

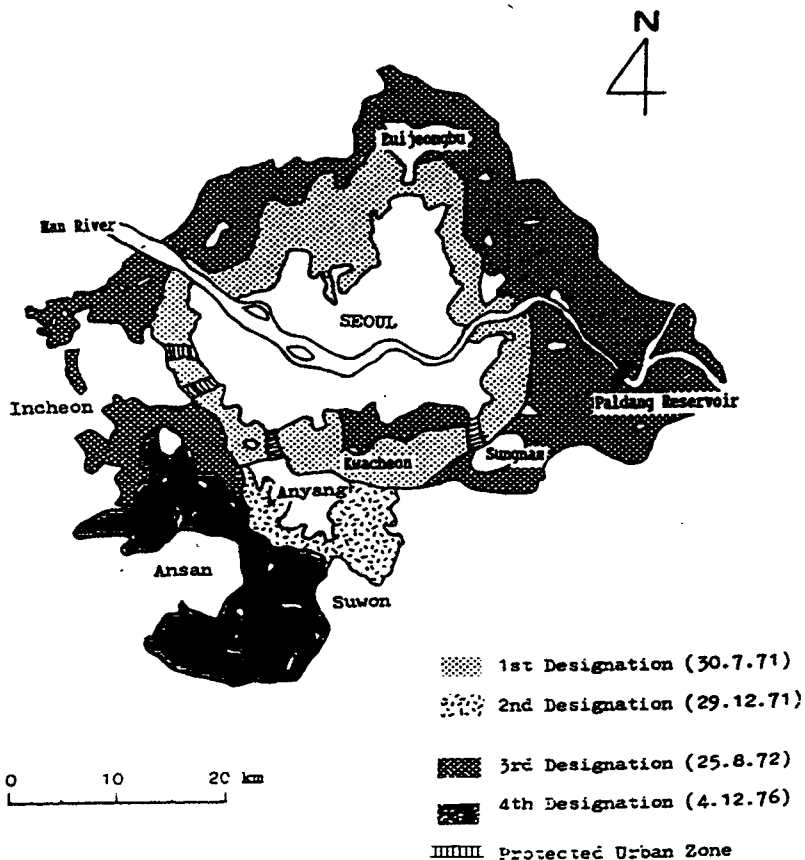
⁴ *Id.* at 219.

⁵ *Id.* at 221.

⁶ Town Planning Act Art. 21 (1971) (S. Korea); KOREA RESEARCH INSTITUTE FOR HUMAN SETTLEMENT, GUKTO 50 NYEON, 456 (1996); Hyun-Sool Kang, *A Study of the Development of the Development Restricted Zones in Korea*, 10 J. KOREAN ARCHITECTURE (DAEHAN GEONCHUK HAKHOI NONMOONJIP) 85 (1994).

⁷ Bae Dissertation, *supra* note 3, at 218.

military risks associated with development too near to North Korea; and to develop an environmental protection area by reserving regional open spaces such as national and regional parks, mountains and river banks, agricultural land,⁸ and later the Han River catchment area.⁹ The boundaries were based on political decisions, however, and not as outcomes of land use surveys.



Map 1
Extension to the Greenbelt in Metropolitan Seoul, 1971-76.¹⁰

⁸ *Id.* at 219-21.

⁹ *Id.* at 222.

¹⁰ *Id.* at 220.

The Seoul Greenbelt developed in four phases, each expanding the area.¹¹ The first phase of the Greenbelt designated an area fifteen kilometers away from City Hall with a band width of between one and nine kilometers.¹² The Greenbelt encircled the city with the exception of several corridors.¹³ The north-west zone, although already densely developed, was included within the Greenbelt because of its proximity to North Korea. The area of the initial Belt was 463.8 square kilometers.

In the second phase, the hinterland of Anyang was included, because of its natural beauty and because speculative development started to occur there in the months following the first designation. This added another 86.8 square kilometers.¹⁴ Also, at this time, a large Greenbelt was created around Pusan, with an area of 597.1 square kilometers.¹⁵ The third designation added a wider circle to the existing Greenbelt, extending its width from fifteen to thirty-five kilometers, and including the eastern rural land in the Han River catchment area at Paldang near Hanam.¹⁶ The total area added amounted to 768.6 square kilometers, by far the largest expansion to the Greenbelt. In addition, a Greenbelt was created around Daegu.¹⁷

In the fourth and final phase, an area of 247.6 square kilometers was added, encircling the new town of Ansan in the southwest, close to the outskirts of Incheon, Anyang and Suwon.¹⁸ The end result of the four phases was a Greenbelt of 1566.8 square kilometers, extending at its widest to forty kilometers from the city center.¹⁹

In the country as a whole, there are fourteen Greenbelts affecting thirty-three cities established in the 1971-87 period. Greenbelt area totals 5397.1 square kilometers, or 5.4 percent of South Korea's land area (located around major cities, Do (provincial) capitals, industrial cities, and cities located close to preservation areas).²⁰ In fact, the share of national territory devoted to the Greenbelts is currently a little larger than the share devoted to urban development (4.7 percent). Approximately four-fifths (79.6 percent) of

¹¹ The designation dates were July 30, 1971; December 29, 1971; August 25, 1972; and December 4, 1976. See *supra* Part II, at Map 1.

¹² Bae Dissertation, *supra* note 3, at 219.

¹³ Seoul-Incheon, Seoul-Anyang, Seoul-Sungnam and, partially, Seoul-Euijeongbu.

¹⁴ Bae Dissertation, *supra* note 3, at 219.

¹⁵ *Id.*

¹⁶ *Id.* at 222.

¹⁷ *Id.* at 223.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ Geon-Hyuk Ahn, *The Current Status and Problems of the Development Restriction Zone*, 28 (298) DOSHI MOONJE 34 (1993).

the Greenbelts' land area is owned privately. Although Seoul's was by far the largest, substantial Greenbelts exist around some of the other cities, such as Pusan, Kwangju, Daegu and Daejon.²¹ About 964,475 people (more than 2 percent of the total population) live inside the Greenbelts.²²

While the proportions vary from case to case, most of the Greenbelt land consists of mountains and forests (60 percent nationwide), leaving much of the rest as farmland (27 percent). Only 3.6 percent of the combined land uses are residential.²³ Other minor uses include airports or air bases, transportation facilities (e.g., rail freight yards), cemeteries and recreational facilities (e.g., golf courses, community parks). Recent Greenbelt regulations focus on private property rights, oftentimes exempting central government agencies, especially where national security is concerned.

III. OBJECTIVES OF METROPOLITAN SEOUL'S GREENBELT

There have been at least seven major objectives in establishing and maintaining the Greenbelt around Seoul, although their relative importance has changed over time. A first, dominant objective was to strictly control development in the northern parts of Seoul for national security reasons. South Koreans have perceived intermittent threats of invasion from the North and have avoided allowing too many people to settle close to the Demilitarized Zone ("DMZ"). However, within the last few years, land scarcity has resulted in new development north of the Han River and beyond the Greenbelt, especially at Ilsan New Town, located within the boundaries of Goyang City.

A second objective, quite important in the early years, was to use the Greenbelt regulations as instruments for eliminating illegal suburban shantytowns around Seoul.

Third, in common with all Greenbelts and urban growth boundaries around the world, South Korea wanted to discourage urban sprawl. However, the eventual scale of the Greenbelt resulted in the establishment of new and the expansion of existing settlements at considerable distances from Seoul (e.g., Ansan). To the extent that some of these settlements functioned

²¹ *Id.*

²² Gilbu Kang, *Future Directions for the DRZ Policy Revision*, 1993 KOREA RES. INST. FOR HUMAN SETTLEMENTS AND MINISTRY OF CONSTRUCTION 6 (1993).

²³ See Ahn, *supra* note 20.

as dormitory towns,²⁴ the sequelae were additional transportation costs and congestion.

A fourth objective, somewhat similar to the third, was to use the Greenbelt as an instrument for harmonizing metropolitan growth by controlling growth within the Greenbelt and promoting suburban and exurban growth beyond the Greenbelt via the development of planned satellite towns.

A fifth objective was to control land speculation within the metropolitan region by extending Greenbelt status to a much larger land area. In fact, this discouraged land speculation only in the short run. In the long run, as shown by the upward trends in land and housing prices, speculative activity in the land and housing markets increased strongly, both at core sites on non-Greenbelt land and in areas beyond the Greenbelt.²⁵

Between 1974 and 1989, housing prices in Korea increased at an annual rate of 17.1 percent, while the consumer price index ("CPI") rose at a rate of 11 percent per annum. Land prices increased at an annual growth rate of 19.2 percent in Korea and 24.2 percent in Seoul. Land prices rose much faster than other goods due to a chronic under-supply of urban land for development. The share of city land available for residential use fell from 11.5 percent to 8.9 percent.²⁶ Although other factors created the under-supply, particularly the government's monopoly power over urban land, the developing land shortage resulting from the creation of Greenbelts severely exacerbated the problem.²⁷

Korea's sixth objective in creating Greenbelts was to protect agricultural land. Like people in other newly industrialized countries, Koreans have a nostalgic view of farmers and rural life. They rationalize the protection of high-cost agriculture (especially rice farming) in terms of "food security," an attempt to link agricultural protection to national security while disregarding the ease of access to the diversity of supply on the world food market.

²⁴ Most peripheral settlements around Seoul were planned with active involvement by the central government. The decision was made to emphasize specialization (e.g., some dormitory towns, others as industrial towns, etc.) rather than promoting "mixed use" centers that might have reduced congestion costs.

²⁵ EDWIN MILLS ET AL., *KOREAN GOVERNMENT POLICIES TOWARD SEOUL'S GREEN BELT* (1986).

²⁶ Lawrence Hannah et al., *Land Use Controls and Housing Prices in Korea*, 30 URB. STUD. 148, 151 (1993).

²⁷ Alternatively, higher land prices are desirable because they induce efficient (i.e. conservation) land use. However, in Korea, this argument is not very persuasive because construction continues at a rapid paces in most urban centers, regardless of land price.

A final objective, shared with other countries using Greenbelts, was environmental and natural resource protection. This objective explains the expansion of the Greenbelt area, especially the inclusion of the Han River catchment area in the third designation. This objective has gained importance in recent years, as environmental awareness in South Korea has increased as wealth has expanded. However, as the later discussion about Pusan will show, sound environmental strategies within the Greenbelt have not been consistently pursued.

Kang²⁸ argues, with some justification, that the Korean Greenbelts have failed to achieve their key objectives. Urban sprawl was not prevented, but merely pushed farther out beyond the Greenbelt boundaries. The natural environment was not protected because of the proliferation of illegal activities,²⁹ the lack of a natural environmental preservation strategy for Greenbelt lands, the use of the Greenbelt as a dumping ground for locally undesirable land uses ("LULU's"),³⁰ and the construction of public agency facilities.³¹

There has never been a serious attempt to apply environmental criteria to the location of public facilities within the Greenbelts. Industrial facilities, landfills, and military bases have been placed in the Greenbelts with little regard for environmental preservation. As evident in conversion of United States' military bases, military bases generate large amounts of hazardous wastes and soil contamination. Actually, there was probably a net loss in agricultural land, because the Greenbelts did not stop development. Instead, they promoted development farther out at somewhat lower densities than would have prevailed in the absence of the Greenbelts.

Kang's views are partially supported by a recent survey of different interest groups.³² Of five groups (Greenbelt residents, other residents, experts (typically professors), members of environmental groups, and government officials), only about 50 percent of the government officials believe that the Greenbelts prevent sprawl (while the other groups fall in the

²⁸ See Kang, *supra* note 6, at 85-92.

²⁹ *Id.* at 88.

³⁰ *Id.*

³¹ National Association of Greenbelts Residents, *The GB Policy Revision Under the New Administration Should Reflect Reality*, in 1993 KOREA RES. INST. FOR HUMAN SETTLEMENTS AND MINISTRY OF CONSTRUCTION 6 (1993).

³² Tae Bok Kim, *Comparative Study of Green Belts in the UK and Korea*, in INTERNATIONAL SYMPOSIUM ON GREEN BELT POLICY: UK AND KOREA 31, TABLE 1-1 (1996); HEUNG KWAN KIM & YOUNG WOO HWANG, STATUS AND THE STRATEGIC MANAGEMENT OF THE DEVELOPMENT RESTRICTION ZONE AND THE NATURAL GREEN AREA IN PUSAN (1996).

range of 19 to 29 percent, with the experts the most pessimistic).³³ Only the environmentalists (67 percent) and the experts (52 percent) think that the Greenbelt preserves the natural environment.³⁴ Yet the so-called informed groups (experts, environmentalists and government officials) all believe that the Greenbelts are worthwhile; on the other hand, 55 percent of Greenbelt residents and 27 percent of other residents believe that they contribute nothing.³⁵

IV. EFFECTS OF THE GREENBELT

An obvious method of evaluating the impact of Korea's Greenbelts would be to assess whether the assumed environmental and land use benefits outweigh the costs inflicted on Greenbelt residents and landowners, in the form of increased commuting expenses, additional infrastructure spending, higher land and housing prices, and other negative impacts. No one has attempted a comprehensive evaluation, although there have been partial insights suggested by researchers.³⁶

As a recent example, Han showed that Greenbelt zoning had the following effects: increased city size, higher land values, higher house prices per unit of floor space, and higher building densities.³⁷ Han also calculated both the individual and the social costs of the Greenbelts; the largest component was higher travel costs.³⁸ Without including time costs, the cost per individual was estimated at 250,000 Won (\$192) per year and the social costs were 470 billion Won (\$3.6 billion); with time costs included, both the individual and the social costs approximately quadruple.³⁹

There has been some recent research into the impact of the Greenbelt on land prices that extends the earlier analysis of Mills, Song and Kim.⁴⁰

³³ Kim, *supra* note 32.

³⁴ *Id.*

³⁵ *Id.*

³⁶ See SUNOK HAN, MEASURING THE SOCIAL COST OF GREENBELT ZONING (1997); MILLS ET AL., *supra* note 25; Mak Jung Choi, *An Empirical Analysis of the Impacts of Greenbelt on Land Prices in the Seoul Metropolitan Area*, 5 KOREAN J. URB. PLAN. 97-111 (1994).

³⁷ HAN, *supra* note 36, at 65.

³⁸ *Id.* Conceptually, commuting costs could move in either direction, depending upon whether the Greenbelt induced residents to move farther out (decentralize) or move to locations more central than the Greenbelt's inner perimeter. In practice, the latter type of relocation is much less likely because of the ubiquity of maximum densities in Seoul. To the extent that it did occur, for commuters who use the car or bus, shorter distances would be substantially offset by slower speeds.

³⁹ See *id.* Author's calculation converting dollar values for time and social costs reflecting the current exchange rate of 1,300 Won to a US dollar.

⁴⁰ See MILLS ET AL., *supra* note 25.

Choi's 1994 study includes control variables such as accessibility and employment growth, and finds a smaller price differential than some of the raw data and anecdotal reporting might suggest.⁴¹ Choi estimates that Greenbelt land values in 1987 were 30 percent below non-Greenbelt values. If Seoul's Greenbelt had been completely abolished in 1987, Greenbelt land values would have risen by 32.1 percent and non-Greenbelt values would have fallen by 7.5 percent (or by 19.2 percent if the price impact were felt only on the inner side of the Greenbelt).

The Greenbelt also impacts people differently, substantially depriving landowners and residents of their property rights, while allowing landowners outside the Greenbelt to realize a boost in value of their land (at least up to 1991) at very high rates. Furthermore, of the 80 percent of Greenbelt land in private hands, about four-fifths is owned not by natives but by the *chaebols*.⁴² A drastic relaxation of development rights in the Greenbelt might have a regressive distributional effect by putting yet more economic power in the hands of the *chaebols*; this may be interpreted as another example of pro-*chaebol* government interventions.

V. SEOUL'S GREENBELT COMPARED WITH LONDON AND TOKYO

A comparison of Seoul's experiences with those of London (an even earlier Greenbelt example) and Tokyo (where the Greenbelt was abandoned) is useful in pointing out alternative directions for the future of the Greenbelt in Seoul. Bae argued for following Tokyo's example of greater suburban growth, and suggested that more development could be directed to the Controlled Development Area in the Southwest of Seoul (around Suwon and Incheon), established in the 1986 Master Plan of Capital Region Development.⁴³ On the other hand, following London's example, the need for environmental protection (specifically with respect to water quality) could be met by extending the Greenbelt into the Nature Preservation Area to the East. As a step in this direction, over 2000 square kilometers upstream of the Paldang reservoir were declared as another Environmental Protection Zone in 1990.

Bae also suggested that Seoul's development problems mirror those faced decades ago by London and Tokyo, a potential ill omen for the future. "Urban congestion was seriously discussed in the late 1930s in London, [it] paralyzed

⁴¹ See Choi, *supra* note 36.

⁴² *Chaebols* are large multi-sectoral corporations that dominate Korea's economy. Historically, they have had a very close relationship with the Government.

⁴³ See Bae Dissertation, *supra* note 3, at 295.

Tokyo in the mid-1950s and [it] brought painful problems to Seoul in the 1980s. From this it seems that in terms of development Seoul is about half a century behind London and a quarter of a century behind Tokyo.”⁴⁴

Despite having a population much larger than London and catching up on Tokyo, the total area of the Seoul built-up area is quite small, only 457 square kilometers, compared with a London built-up area of 1310 square kilometers and a Tokyo built-up area of 1005 square kilometers. Also, the area of Seoul’s satellite towns of 354 square kilometers is small compared to London’s Urban Islands of 831 square kilometers and Tokyo’s Greenbelt suburban area of 941 square kilometers. The early designation of the Greenbelt in Seoul has limited the area available for suburban development in both the built-up area and the satellite towns. Problems have followed from the prevention of development in the closest and most suitable land around Seoul.⁴⁵

London’s Greenbelt grew from a width of eight kilometers in Abercrombie’s Greater London Plan of 1944 to eleven to sixteen kilometers in the Plans of the early 1950s, to thirty kilometers in the 1960s and 1970s, returning to a more reasonable twenty to twenty-five kilometers in the 1980s. Although pressures for release of Greenbelt land continued, the Greenbelt Circular 14/84 of 1984 reaffirmed the concept of the Greenbelt and argued that its boundaries should not be breached except “in exceptional circumstances.”⁴⁶ Rural preservation objectives were introduced in 1988. By 1990, the Greenbelts had expanded to 1.55 million hectares, 12 percent of England’s land area and double the 1979 area. A Planning Policy Guidance Note on Greenbelts, published in January 1995, added to earlier objectives the goal of making positive use of the Greenbelts, for example, as a recreational resource. Support for the Greenbelts remained as strong as ever.

Tokyo, on the other hand, abandoned its Greenbelt and the land was developed as moderate income suburbs. An interesting question is why the Greenbelt concept worked in Korea, but came under unbearable pressure in Japan. A probable explanation is that Japanese law protects private development rights much better than Korean law. Parkland per capita in Tokyo is only 10 percent of that in London. By 1990, Seoul’s density in the built-up area surrounded by the Greenbelt had reached 28,000 people per square mile and there were less than forty square kilometers of land remaining for development. Bae concluded that following a London Greenbelt strategy would save 60

⁴⁴ *Id.* at 281

⁴⁵ See MILLS ET AL., *supra* note 25.

⁴⁶ Kevin Bishop, *Green Belts: Some Comments on the UK Experience*, in INTERNATIONAL SYMPOSIUM ON GREEN BELT POLICY: UK AND KOREA 18 (1996).

percent of the likely land consumption resulting from a Tokyo strategy, but he may have underestimated the far suburb and exurban development; the high density and lack of land provide pressure to relax Greenbelt restrictions.⁴⁷

England's Greenbelt policies have not been beyond criticism. Land values have increased two-and-a-half times faster than the consumer price index. Another study estimated that 3 percent of GNP is consumed in maintaining the London Greenbelt and that new homeowners pay more than \$500 per year more in mortgaging servicing costs than if the Greenbelt did not exist.⁴⁸ While they have constrained the physical expansion of cities, they have not stopped their functional expansion in the form of multi-nucleated settlements; this results in a high degree of inter-urban commuting through the Greenbelts with higher travel costs and more air pollution. The displacement of contiguous development has led, in some cases, to the preservation of poor quality land on the urban fringes at the cost of development in rural landscapes. In-fill development ("town cramming") has been associated with the loss of urban open space. Development restrictions have limited the ability of farmers to diversify out of excess capacity crops into more productive activities (e.g., market gardening structures on the urban fringe). Finally, landholders in the Greenbelt have no incentive to maintain their land because a degraded landscape will more likely receive planning permission to develop—hence the emergence of unsightly "brown" landscapes. Although there are counter-arguments to some of these criticisms, they illustrate that even in England, where Greenbelts originated and where they continue to receive substantial public support, they remain a mixed blessing.

VI. THE CASE OF PUSAN

In some respects, Pusan (Korea's second largest city and the major port) presents a more interesting and challenging case than Seoul because development on many sides is severely constrained by mountains, while at the same time a huge amount of flat land in the western section of the city is barred from development because of its Greenbelt status. Development invades the mountain forest areas not designated as Greenbelt and leap-frogs to smaller communities (either outside the city boundaries or which have been annexed to Pusan). Ridge lines are threatened, and construction costs have escalated. Almost all construction occurs at the maximum height allowed

⁴⁷ See Bae Dissertation, *supra* note 3, at 283-96.

⁴⁸ See Bishop, *supra* note 46, at 21; author's conversion of six pounds per week to 500 dollars per year.

(twenty-five stories). Because of topographical features and the location of Greenbelt land, development has been forced onto a very limited number of linear axes, both north-south and east-west, aggravating already extreme traffic congestion. As an example of the pressures of the land shortage, in the north-east of Pusan, condominiums are being built just within the perimeter of the non-Greenbelt area—only a road-width away (about twenty-five meters) from two waste incinerator plants.⁴⁹

Given these problems, to the casual observer the vast empty flat land area in west Pusan appears strange. Most of it is currently used as rice paddy. At prevailing densities, this area could absorb perhaps an 80 percent increase in Pusan's population, more than enough to accommodate decades of growth given stabilizing demographic forces (fewer children, less immigration).⁵⁰ To the south of this area, a new port is planned on Kadeokdo Island to relieve congestion at Pusan Port. On the mainland to the north of the island (but south of the Greenbelt), land has been reclaimed from the sea by the Pusan government for residential development at a cost of about \$2.5 billion.⁵¹ In addition, a thirteen kilometer bridge has been proposed from Pusan to Kadeokdo to minimize the traffic flow through the Greenbelt. Furthermore, Pusan International Airport, located in the middle of the Greenbelt (and surrounded by paddy) at Kim-Hae was built some years after the Greenbelt was established, under the provision exempting central government facilities from Greenbelt regulations. No development is permitted near the airport, thereby losing the economic advantages associated with proximity of air freight-related services and other industries attracted to airports. Instead, other than on-site airport facilities, all other airport-related economic activities must locate at least several kilometers away. On cost-benefit grounds, the decision to maintain this section of the Greenbelt, at least in its entirety, appears irrational.

On the other hand, several "intangible" environmental arguments have been marshaled to support retention of Greenbelt status for this area. The area is a river delta, and the Nakdong River supplies water for Pusan; some argue that development there would risk water contamination.⁵² In addition, the Greenbelt encompasses wetland areas, bird habitats, and other

⁴⁹ Author's observations; see also KIM & HWANG, *supra* note 32, at 26-28.

⁵⁰ Interview with officials of the Pusan City Planning Department, in Pusan, South Korea (1997).

⁵¹ Interviews with officials in the Pusan Development Institute and Pusan Metropolitan City Planning Department, in Pusan, South Korea (1997).

⁵² Interview with Professor W. Jang and Dr. Y. Choi of the Pusan National University, in Pusan, South Korea (1997).

ecologically-sensitive land uses. It even contains some archaeological sites: artifacts have been found left by earlier inhabitants who fished in the river. Above all, the agricultural land preservationists and the domestic rice lobby, both very powerful in Korea, have argued that this area has some of the most fertile land in the country with a very rich subsoil. Although this position would never stand up to the scrutiny of the "highest and best use" principle expounded by land economists, it persuades many Koreans. Of course, many of these rationales are difficult to quantify and analyze in cost-benefit or similar technical terms.

In some respects, the environmental goals of the Greenbelt are a sham. Elsewhere in Pusan, in the Kijang-kun area to the east, 100 meters of forest have been destroyed on both sides of the highway to create a host of LULU's (metal disposal yards, auto junkyards, tire dumps, construction equipment storage areas, and a military ammunition factory). Pusan's major landfill (almost at capacity) is also located in the Greenbelt. An explanation for these superficially bizarre location decisions is that because no residential community wants these LULU's in their neighborhood, the Greenbelt, seemingly by default, becomes the only acceptable site.

As a further illustration of the inconsistent pursuit of environmental goals, consider the City of Pusan's requests for the Asian Games of 2002. They wanted to build a thirty-six hole golf course and a horse-riding facility in the Greenbelt, but were turned down by the Ministry of Construction and Transportation, and told to use facilities in other cities. Yet, as the United Kingdom's prescriptions suggest, an emerging theme in Greenbelt management is to use the Greenbelts as a recreational resource. Given that golf course development is now permitted within the Greenbelt, and the fact that the golf course was proposed for a site in Kijang-kun, it seems perverse that junkyards are acceptable as Greenbelt facilities but not golf courses, although both generate environmental problems.

VII. COMPARISON WITH THE WASHINGTON STATE GROWTH MANAGEMENT ACT ("GMA")

The relationship between Korea's Greenbelt Policy and the Washington Growth Management Act is the subject of another study, so this Article suggests only the broadest generalizations.

First, the Korean approach is much more top-down, with most of the decisions dictated by the central government, particularly the Ministry of Construction and Transportation. In Washington State, although the State

requires urban jurisdictions in urban counties to adopt an urban growth boundary and other growth management measures, local governments have considerable latitude.⁵³ In Korea, on the other hand, local governments cannot act freely in the green areas surrounding their jurisdictions.⁵⁴ This difference, in part, reflects not only the very recent shift toward a more democratic structure in Korea, but also the fact that attempted development of a higher degree of local autonomy is incomplete.

Second, the urban growth boundary concept is not the same as a Greenbelt.⁵⁵ In the former, the aim is to concentrate new development via infill, redevelopment, and other strategies inside the boundary; in the latter, development is not only allowed but may be actively promoted beyond the outer boundaries of the Greenbelt. This distinction has been obvious in the Korean case because of the secular pressures of urbanization that have made suburban and exurban development unavoidable.

Third, the fact that the Growth Management Act was passed only in 1990, and that many of the plans adopted by local governments have yet to be implemented, means that it is premature to evaluate its impact. The results of Korea's 26-year-old Greenbelt policy are transparent, although the extent to which the responsibility of some of its effects (e.g., rising land prices) are to be shared with other influences (e.g., the slow release of land for development by the government under its Land Readjustment Program)⁵⁶ remains controversial.

Fourth, although the land uses spared from development (e.g., forests and agricultural land) are similar in the two cases, preservation of the natural environment is a more dominant objective in Washington. Although this goal has recently received more attention in Korea, it remains of secondary concern. In fact, in many locations, environmental conditions within the Greenbelts have been allowed to deteriorate through neglect.

Fifth, South Korea and the United States differ in their needs for monitoring and enforcement. The land use zoning and building permit processes have been in place for so long in the United States and are so widely accepted that there are almost no violations. In Korea, on the other

⁵³ Dennis E. Gale, *Eight State-Sponsored Growth Management Programs: A Comparative Analysis*, 58 J. AMER. PLAN. ASS'N 425-39 (1992).

⁵⁴ Tae Bok Kim, *Background and the Changes of Korean Greenbelt*, 28(298) DOSHI MOONJE 16 (1993).

⁵⁵ The urban growth boundary concept has a longer history in Oregon, having been in existence since 1979. However, the immigration of 700,000 people into the Portland area has subjected the boundary to such great pressure that the regional government is considering relaxing the boundary by 4000-5000 acres. *Paradise Dimmed*, ECONOMIST, Aug. 9, 1997, at 21-22.

⁵⁶ See Hannah, *supra* note 26 at 151-56. See also WILLIAM DOEBELE, LAND READJUSTMENT 163 (1982).

hand, partly because of severe restrictions on development, attempts to build illegal structures and facilities have been frequent and the authorities have had to be vigilant to keep these in check.⁵⁷

VIII. THE GREENBELT AND PRESSURES FOR CHANGE

Initially weak regulations of Korea's Greenbelts were replaced in December 1972 by strict controls on types of development (land subdivisions, new buildings (even new, small, farm buildings), any changes in land use, and changes in the use of residential and industrial buildings). Upgrading houses and villages was allowed in special cases, particularly after the amendment of the Greenbelt Management regulation in April 1978.⁵⁸ Public works such as roads or military facilities were permitted. Permission for a change in land use in the early years required the approval of the President; not even the Ministry of Construction and Transportation could authorize these changes. Illegal buildings were destroyed. By 1990, 5200 people had been penalized for Greenbelt violations (typically illegal construction of dwellings and other buildings).⁵⁹ Briefly, during the 1986 presidential election, the opposition parties argued for flexibility in the Greenbelt, but backed off because of adverse public opinion.

Because the Greenbelt was initiated by the direct authority of President Park, opponents of the Greenbelt associate it with authoritarianism and perceive that the transfer to a civilian administration might be associated with some relaxation of the Greenbelt restrictions. Indeed, this had been a campaign promise of President Kim Young Sam in 1992, although more recently (on April 19, 1997) he insisted that some of the Greenbelt would have to be preserved.⁶⁰

Much of the pressure for change has come from Greenbelt residents and landowners, chafing under the restrictions on their property rights. In recent years, they have enlisted the support of some legislators and have also found some of the local governments sympathetic, because Korea's top-down approach hinders the execution of local government power in land use decisions within their Greenbelts.⁶¹ They often refer to Japan, which abolished its 1956 Greenbelt in 1968, partly in response to public opinion.

⁵⁷ Interview with officials in Planning Department, Haeundae Gu, in Pusan Metropolitan City (1997).

⁵⁸ See Bae Dissertation, *supra* note 3, at 228.

⁵⁹ See *id.* at 229.

⁶⁰ See National Association of Greenbelts Residents, *supra* note 31, at 4.

⁶¹ See KIM & HWANG, *supra* note 32, at 58.

Possible reforms of the Greenbelt policy have been hotly debated in both academic circles and in the media. The strongest resistance to change comes from the ruling authority of the Greenbelt, the Ministry of Construction.

Greenbelt residents complain that their properties have not increased in value, unlike those outside the Greenbelt, and that land use controls are so strong that community facilities cannot be developed. Protests led to an important relaxation in September 1988: primary and secondary schools, sports centers, tennis courts, and playing fields could be built. Also, it became possible under certain circumstances to change existing land uses for houses, factories, and shops. But President Roh announced at the time that Greenbelt land would never be released for residential development.

More recently, the residents blame the Greenbelt policy for a number of problems:

1. The failure to build sanitation facilities and other services, and the restrictions on building that fail to satisfy the housing demands of extended families;
2. Under-valuation of Greenbelt land;
3. Government approval of certain uses (e.g., large public facilities, military installations, golf courses, luxury cemeteries) without residential input that often destroy the natural environment.

Requests for relaxation of restrictions include allowing new residential construction, especially for landowners without a building on their land; remodeling and expansions; installation of services; changes of land use for vacant grazing land; and income-generating activities for Greenbelt residents (including restaurants, fisheries, horticulture, gasoline stations, sports facilities, highway rest areas, and parking lots). There have been some modifications of the regulations on many of these points, but the changes have been ad hoc and sporadic without a serious and comprehensive evaluation of the Greenbelts' role.⁶² Despite deregulation, planning permission is still required, and a recalcitrant jurisdiction can easily hold up a project.

Nevertheless, the most important regulatory modifications were initiated in 1993 and 1995, which permitted, among other activities: supermarkets, banks, libraries, hospitals, private schools (if it would avoid

⁶² For example, modifications of regulations have permitted larger floor space in residential remodeling, allowed certain services (especially recreational) to be established, and even granted only "natives" the right to set up certain businesses (e.g., gas stations and snack bars).

substantial out-commuting to schools), parking facilities, theaters, sports facilities, wholesale markets for agriculture, livestock, and fish. Also, natives⁶³ were allowed to expand their residential structures to 90 *pyung* and/or three stories if needed to accommodate children's families within the extended family structure.⁶⁴

Major loopholes in these native preferences, however, allow non-residents to benefit. For example, a provision states that natives can now renovate or rebuild on a much larger scale, and have an immediate right to sell once construction has been completed. As a result, it is common, especially in the Seoul area, for a Greenbelt native to make an informal contract with a wealthy person who then advances the funds for construction, often with detailed specifications. After finishing a building, a formal contract allows the native to sell to the outsider with a substantial capital gain. Some of these country homes are expensive, up to several million dollars on large lots that have a market value in excess of two million dollars.⁶⁵ Both sides benefit from their agreement, but this was not the intention of the pro-native provisions.

Another major problem has been the failure to distinguish between preservation and conservation. In many cases, where agricultural land has been left uncultivated, tree planting programs have stagnated, and weeds have been allowed to obliterate and destroy walking paths. As Park, a researcher at Pusan Development Institute, commented about parts of Pusan: "There is no Green Belt, only a Brown Belt."⁶⁶ A natural resources conservation plan, on the other hand, would facilitate more harmony between improvement in both natural resources and the human environment and would tend to maximize the prospects for "beneficial exploitation" of the Greenbelt's resources.

⁶³ The term "native" is a misnomer. In order to qualify as "native," one need not be born within the Greenbelt; one must only live there before the designation date.

⁶⁴ In addition, the resident owners have demanded compensation for their restricted property rights (possibly in the form of an annual payment, financed by a tax on Greenbelt beneficiaries). An alternative demand is for the government to purchase the land in the Greenbelt from its owners at the full "market" price, that is, the value of the land without development restrictions. The case for public ownership of Greenbelt land was made by I. T. Kim, but challenged by C. H. Kim because public ownership would result in inefficient land use and rent-seeking behavior (i.e., developers and others seeking favors from government officials). Il Tae Kim, *A Study on Establishing Public Ownership in Greenbelt Area*, 8 KOREAN J. URB. PLANNING 67, 67-82 (1986); Chung-Ho Kim, *Economic Analysis of "The Public Concept of Land": A Critique*, in THE ECONOMICS OF KOREAN LAW 191-229 (Chung-Ho Kim ed., 1997). Another interesting idea, obviously not favored by residents, is to utilize low population densities in Greenbelts, and without damaging the environment, locate LULU's there. However, while many LULU's have been located in Greenbelts, it is often difficult to do so without damaging the environment.

⁶⁵ Interview with city officials in Hanam City Planning Department, Hanam, Korea (1997).

⁶⁶ In Ho Park, *Address at The Capital Region's Development Strategies and Balanced Regional Development Toward 21st Century* (1996).

IX. CONFLICT BETWEEN LOCAL AUTONOMY AND GREENBELT SUPERVISION: THE CASE OF HANAM

Traditionally, Korea has had a highly centralized, top-down political structure. However, the gradual democratization of society has been accompanied by attempts to shift power and authority to local governments. The Local Autonomy Laws of the 1960s purported to give substantial authority to local governments, but progress in implementation was very slow prior to local elections in 1995; now, however, "local autonomy" has become a mantra of the progress towards democracy. Yet, although local governments manage Greenbelts under the close supervision of the central government, they have no freedom to make any substantive decision about possible relaxation of Greenbelt restrictions or amendments of use. A modest change in 1996 transferred responsibility for land use decisions for villages with less than 100 households from the central government to the city mayor or the provincial governor. A majority of residents (62 percent if they live within the Greenbelt, 51 percent if they live without) favor local government control, while 61 percent of other groups (experts and environmental interests) prefer local government management with a degree of central government control.⁶⁷ Bureaucrats favor this first-choice alternative, although not by a majority.⁶⁸

As an example of the potential conflicts between local governments and the central government (viz., the Ministry of Construction and Transportation), consider the case of Hanam City. Hanam City has 122,000 people and is very close to Seoul (the western border of its urbanized area lies only 2.5 miles from the eastern tip of urbanized Seoul), and near the Han River catchment area, which provides the water supply for Suwon and Incheon, at Paldang. Less than 2 percent of the land area of Hanam City has been released for urban development; the remainder consists of Greenbelt. The urban area is already built out so Hanam has no room to expand.

The Hanam City government proposed the construction of a cultural center and museum⁶⁹ within the Greenbelt, but close to the urban area; they were turned down. The city wanted to rehabilitate some of the forty-plus traditional villages (villages with more than twenty houses) within its

⁶⁷ See Kim, *supra* note 32, at 34, Table 2-1.

⁶⁸ *Id.*

⁶⁹ The museum was to display artifacts from the Paekche period (6 B.C.-475 A.D.) found on a recent site in the city. Because of the lack of a facility (no sites were available outside the Greenbelt) and no funding, the artifacts have been reburied.

boundaries, in part to deal with the problem of multiple households sharing one dwelling, and proposed a program for doing this; it was rejected. They prepared a twenty-year Master Plan with plans to extend the urbanized area (primarily northwards) by 3.3 million *pyung*, or twelve square kilometers; it also was rejected. Hanam functions as a dormitory town, in part because it has no industrial sites. It would like to include, in an expansion of the urbanized area, an industrial park for zero-polluting industries, but again it is not permitted. At the same time as these city proposals were being denied, the central government had implemented several of their projects in the city, including a project to build a water supply pipeline across the city in an east-west direction from Paldang reservoir to serve communities to the west.⁷⁰ The only locally-sponsored project that has received permission from the central government was a proposal for a ten-kilometer light rail line from Hanam to the nearest subway; in any event, this is a private project to be implemented by the Lucky Goldstar ("LG") *chaebol* under the Private Investment Improvement Act, and its approval reflects the government's interest in experiments with light rail.

Currently, firms decentralizing (or starting up in this direction) have to move farther out (south of Hanam) into Kwanju-gun, outside the Greenbelt. Also, some of these industries (e.g., computers and other information processing firms) require highly skilled workers, who commute from Seoul. Consequences of decentralization include additional commuting costs and financial difficulties for Hanam, which lacks a tax base and depends heavily upon subsidies from the Ministry of Interior.

Another problem is that about one-quarter of Hanam's residents, many of them natives, live in the Greenbelt. Greenbelt restrictions have seriously hampered the city's desire to respond to the needs of its citizens, in terms of limiting the natives' activities and frustrating its ability to deliver services to the Greenbelt segment of the city population. Finally, Hanam is less than twelve miles from Seoul City Hall. Given the short distance between the limits of Seoul's urbanized area and the developed part of Hanam, in-filling the area in-between would very efficiently use valuable, close-in land, but the Greenbelt designation rules out this alternative. In general, the relationship between Hanam, a city whose territory is almost all Greenbelt, and the Government of Korea is marked by frustration and resentment. Its high

⁷⁰ Paldang also provides another example of the Government's ambivalence on environmental protection issues. A recent relaxation of water quality regulations in the Water Quality Protection Zone (Sang-Su-Do Bo-Ho Guyuk) at Paldang has increased water pollution there. This contrasts, at least superficially, with the greater attention to environmental protection goals in Greenbelt areas.

proportion of Greenbelt land and its proximity to Seoul makes it an extreme case, but it illustrates the conflict between top-down decision making and the quest for more local autonomy.

A 1997 policy change may make the future of Hanam much less restrictive than in the past.⁷¹ It permits local governments that have more than two-thirds of its land area within a Greenbelt to develop many facilities on Greenbelt land.⁷² It remains to be seen how this works out in practice. In the past, some development rights have been granted generally, but specific projects have still been turned down.⁷³

X. OBSTACLES TO REFORM

Many obstacles prevent reforming the Greenbelts. An important one is that Korea has shared in the increasing interest and concern about environmental problems that have swept the world in the past two or three decades; as a result, the environmental rationale appears stronger now than when the first Greenbelt was established in 1971.

Another obstacle is the "floodgates" argument. Government officials fear that if they make some significant concessions, then the whole Greenbelt policy would collapse. One must also contend with legal and constitutional barriers. In May 1990, the Korean Supreme Court decided against compensation for Greenbelt owners, on the ground that it was not in the public interest.⁷⁴ The issue before the Korean Supreme Court was whether Article 21, Sections 1 and 2 of the Urban Planning Act were in violation of the Korean Constitution. The Court ruled that it was in the public interest to prevent uncontrolled growth of urban areas and to preserve the national environment as a healthy living environment. "In line with that public interest, it is acceptable that the landowner suffer personal losses and therefore the Act, which precludes compensation, is not unconstitutional."⁷⁵

However, some strong winds push for change. The increasing agitation of the residents and landowners continues to find a receptive ear among some politicians. Another, potentially more important political force is the growing autonomy of the local governments that either have or are near Greenbelts and may have different views about preserving them than the central government.

⁷¹ CHOSUN ILBO, Sept. 11, 1997.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Citing sections 23:2 and 37:2 of the S. Korean Constitution.

⁷⁵ Korean Supreme Court 1990.5.8, 89Bu2.

A third political consideration is the origin of Seoul's Greenbelt as an authoritarian decision (by President Park) so that undermining it could be considered a strike for democracy. Urban economists and other urban analysts are beginning to critique the Greenbelts on the ground that they are inconsistent with the "highest and best use" of land principle. This argument has gained strength as the population pressures around the large cities have raised the potential value of land in appropriate parts of the Greenbelts.

Even within the national government, from the President down, there have been murmurs of the desirability of making at least some modifications to Greenbelt restrictions. All groups favor amending the Greenbelt boundaries on economic grounds (i.e., to improve the living standards of Greenbelt residents).⁷⁶ More residents than farmers live in the Greenbelts, so the agricultural arguments for retaining them will eventually weaken as Korea begins to accept both the principles of comparative advantage and the benefits of fully conforming to the World Trade Agreement ("WTA"). As a result, they may become less stubborn about preserving the markets for domestic rice production and other crops.

A longer-term consideration is that the land shortage problem in South Korea may eventually be relieved when and if reunification takes place.⁷⁷ Although there is widespread agreement that this will happen, uncertainty about its timing makes it a difficult factor to consider in deliberations about modifying the Greenbelt.

Violations constitute another obstacle, in that they harden the government's resolve to punish violators. Relaxing the restrictions in a major way would be tantamount to a confession by the government that Greenbelt residents and landowners had merit. Enforcement measures have been somewhat successful,⁷⁸ although violations do occur extremely frequently. One-half of Korean Greenbelt survey respondents admitted to violations, as opposed to 1.5 percent in the United Kingdom.⁷⁹

A recent problem is the lack of resources to maintain monitoring facilities; this may be a partial explanation of the rising violation rate. The Mayor of the

⁷⁶ See Kim, *supra* note 32, at 35, Table 2-2.

⁷⁷ The situation is complicated by the potential effects of North-South migration on the demand for land around South Korea's major cities. In these circumstances, the pressures for relaxing their Greenbelts may become too intense to bear.

⁷⁸ Changes are observed by aerial photographs annually. Boundary lines are marked every 100 meters. Any unauthorized structure, upon discovery, is demolished and fines are imposed. Monitoring patrols are based at 10-kilometer intervals; one district in the city of Pusan (Haeundae Gu) alone has seven full-time patrol officers (a difficult and unpopular job because officers are politically pressured to overlook violations while being regularly subject to central government audit).

⁷⁹ See Kim, *supra* note 32, at 37, Table 2-5.

city or the head of the district (*Gun*) runs a special Task Force for managing the Greenbelt, which meets monthly. The Ministry of Construction and Transportation maintains and regularly updates a coordination plan for disciplining violators (*Hapdong Dansok Kyehoyk*). Applications for waivers to the Secretary of the Ministry cost a lot, waste time, and are usually rejected. The high violation rate may result directly from the extreme inflexibility of the regulations.⁸⁰ Ninety-nine percent of Korean respondents perceive inconveniences associated with the Greenbelt, compared to 56 percent of United Kingdom respondents.⁸¹

XI. TOWARD A SOLUTION

Korea's Greenbelts policy has been in place for twenty-seven years and is ingrained in the national psyche; preserving the Greenbelt becomes a mantra. The perception is that major changes would result in big winners and big losers, a policy maker's nightmare. Yet the prospect of substantial land value increases after Greenbelt deregulation suggests that there are prospects for developing a win-win strategy. The land price within Greenbelts may be as little as 10 percent of the price of any available land in the central core of the city.⁸² Abolishing the Greenbelt, however, would not necessarily result in a price increase sufficient to bring the value up to that of the ex ante non-Greenbelt land prices. Much depends on the price elasticity of the demand for land, the area of the Greenbelt relative to the urbanized area, the amount of developable land still available, whether the Greenbelt were to be abandoned as a whole or partially, and many other reasons. The land price would increase substantially, though, perhaps by 50 percent.

People in government, academic, and environmentalist circles commonly argue against relaxing Greenbelt controls because "speculators" (i.e., the absentee landowners) would reap windfall gains. Many of the natives would receive minimal benefits because their land holdings are small and usually have structures in place. Yet these arguments suffer if there is a potent public interest in releasing Greenbelt land. In fact, a cross-subsidy scheme could likely be devised to approximate a win-win solution.⁸³

⁸⁰ The United Kingdom grants a significant proportion of appeals (22.6% in 1992). *Id.* at 38.

⁸¹ See Kim, *supra* note 32, at 45, Table 6-1.

⁸² Daegu data points to a four-fold rather than a ten-fold differential. Also, note the analysis discussed above which showed a much smaller price differential when control variables are introduced. See Choi, *supra* note 36.

⁸³ The essence of such a scheme would involve imposing a special tax on the windfall profits of the speculators and providing subsidies to the natives, but still leaving speculators with a healthy capital gain.

The tax yields could not only buttress the general revenues of government, both central and local, but more importantly could provide funds to supply the natives with much needed community services to satisfy their demands for neighborhood upgrading. In addition, housing consumers would gain substantially from the leveling off of land prices. The main losers would be the environmental groups who would protest the loss to development of open space and natural resources, but as suggested earlier, environmental preservation goals are more of an excuse than an operational rationale for the Greenbelts.

This solution may not be practical. The government of Korea has little experience with, or appetite for, cross-subsidy schemes. On the other hand, the principle of public-private profit sharing has been established for a long time, even in land markets (i.e. the well-known Land Readjustment Program⁸⁴). Another practical difficulty is that many purchasers of land report artificial prices (often 50 to 80 percent of the price paid) as a tax avoidance tactic. This would undermine the cross-subsidy concept, and the problem might even get worse if such a scheme were implemented.

An alternative to this market-oriented, cross-subsidy solution might be a five-fold approach:

1. Transfer responsibility for the Greenbelts to local governments, allowing them to take into account local land and housing market considerations;
2. Readjust the boundaries, allowing some development to take place where land pressures are most acute or where environmental quality goals are not violated;
3. Widen the range of land uses permitted to reduce development restrictions and potential property value losses;
4. Draw a distinction, with respect to environmental quality goals, between activities that pollute and those that do not, and allow the development of a wider range of the latter type of activities; and,

The tax would have to be at a higher rate than either the Development Gains Charge, which taxes 50% percent of the land value increase above the amount invested on projects larger than 3300 square meters, or the Excess Profits Tax on Land, which also taxes 50% of any imputed increase in land values above the national average land price. Jae-Young Son, *Supplying Land for Housing in the 1990s*, in *HOUSING POLICY IN THE 1990S: EUROPEAN EXPERIENCES AND ALTERNATIVES FOR KOREA 13-40* (Werner Puschra & Kwan-Young Kim eds., 1993).

⁸⁴ The essence of the Land Readjustment Program is that developers hand over a proportion of their land for public use in return for government investments in infrastructure that raise the value of their remaining land. However, land readjustment fell out of favor in the 1980s because of the perception that too much profit was being made. DOEBELE, *supra* note 56, at 166-67, 191-92.

5. Introduce a system of transferable development rights ("TDR's") to allow the natives to exchange their land, especially if located in environmentally sensitive areas, for developable land outside the Greenbelt.⁸⁵

This approach might be politically acceptable because out of all the interested groups, only a slight majority of the Greenbelt residents (51 percent) would abolish the Greenbelt altogether.⁸⁶ Apart from the general population who are split on all alternatives, the other groups (experts, environmentalists and officials) would maintain the current Greenbelts with some mitigating actions to relieve its inconveniences to the natives.⁸⁷

XII. CONCLUSION

This Article has examined the recent impact of Korea's Greenbelt strategy on urban development in Korea and on the lives of its population (both Greenbelt natives and others). It has suggested that the net benefits of the Greenbelts are unclear and that there are major conflicts between the Greenbelt laws and individual property rights that a more democratic Korea needs to address. It is possible that an evaluation might reveal that an overwhelming public interest outweighs the restrictions on property rights, but no analyst has attempted such an evaluation, perhaps because property rights issues have been muted in the top-down Korean political and legal system. Local governments have been promised more autonomy under the Local Autonomy Law, and received it to some extent, but remain powerless and voiceless with respect to the Greenbelts. Yet they, more than any other institutions, have to cope with all the urban problems associated with tight physical constraints on urban expansion. A true test of the emerging Korean democracy is when all parties can have an open dialog on Greenbelt issues, with the possibility that major reforms might follow. A precondition for such a dialog is recognition that the Greenbelt concept is not sacrosanct.

⁸⁵ However, Son argues that the complexity and inflexibility of land use laws in Korea makes TDR's very difficult. See Son, *supra* note 83.

⁸⁶ See Kim, *supra* note 32, at 48, Table 6-5.

⁸⁷ *Id.* at 39.